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the mass flow controllers 45, 49. The liquid organic monomer and the carrier gas are mixed in a mixing nozzle portion 53 of the organic monomer vaporization chamber 47 to form a gas-liquid mixed fluid 55. The diameter of the mixing nozzle portion 53 is rendered smaller than the diameters of the carrier gas piping 37 and the feedstock piping 23, and the fluid is sprayed from the mixing nozzle portion to a vaporization vacuum chamber 57. At this time, owing to the abrupt pressure loss of the mixing nozzle portion 53 and the vaporization vacuum chamber 57, the gas-liquid mixed fluid 55 is converted into an aerosol 58 of the organic monomer having a diameter of 100 μ m or less in the vaporization vacuum chamber 57. With respect to the formation of the aerosol, it is quite important to select the diameter of the mixing nozzle portion 53 and the flow rate of the carrier gas. When the flow rate of the carrier gas is 50 to 500 sccm, the diameter of the mixing nozzle is 1 to 0.2 mm. The gas-liquid mixed fluid may be preheated to a temperature which is approximately 20°C lower than the polymerization starting temperature of the organic monomer through a block heater 65 near the mixing nozzle portion 53. Or, the carrier gas may be preheated.

Pages 13-14, delete the bridging paragraph and insert the following paragraph:

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A block heater 63 heated at a predetermined temperature is installed in the vaporization vacuum chamber 57, and the aerosol 58 of the organic monomer is heated through the block heater 63. Such an aerosol 58 is vaporized by heating to form an organic monomer gas 41 which is discharged from a vaporized feedstock piping 39 along with the carrier gas. Although a part of the aerosol is adhered to the surface of the block heater 63, this aerosol 58 is also instantaneously vaporized. The resulting organic monomer gas 41 is fed to a reaction chamber via the vaporized

B2 feedstock piping 39, activated through RF plasma, and then subjected to a polymerization reaction on a substrate heated at 300°C to 420°C to grow an organic polymer film. A piping heater 59 is wound around the vaporized feedstock piping 39 lest the piping has a temperature which is less than the vaporization temperature of the vaporization vacuum chamber. In this manner, re-liquefaction of the organic monomer gas 41 is prevented.

Page 22, delete the first full paragraph and insert the following paragraph:

B3 Further, the BCB monomer gas (not shown in Fig. 10) is fed to the plasma polymerization reaction chamber system 73 via a vaporized feedstock piping 39. A plasma polymerization reaction chamber 19 is provided with a shower head 9 that can apply high frequency of 13.56 MHz. The BCB monomer gas is passed through He plasma formed under the shower head 9, and the polymerization reaction is conducted on a substrate 25 mounted on a substrate heater 27 heated at 300 to 420°C to grow a BCB polymer film. An RF power is 50 to 100 W (0.1 to 0.2 W/cm²).

Pages 22-23, delete the bridging paragraph and insert the following paragraph:

B4 A heater 79 is wound around the vaporized feedstock piping 39, the plasma polymerization reaction chamber 19 and a discharge piping 31 to prevent re-liquefaction of the organic monomer gas 41. The temperature of the vaporized feedstock piping 39 is the same as the heater heating temperature of the vaporization vacuum chamber 57. For example, when the vaporization temperature of the BCB monomer is set at 190°C, the temperature of the vaporized feedstock piping 39 is set at 190°C. The temperature of the plasma polymerization reaction chamber 19 is lower than the heater heating temperature by approximately 20°C, namely 150 to

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170°C. The temperature of the discharge piping 31 is also set at 150 to 170°C. The discharge piping 31 is connected with a discharge pump 21 via a cooling trap 81. Further, for cleaning the inner wall of the plasma polymerization reaction chamber 19, a cleaning gas is introduced from a cleaning gas piping 83 via a cleaning gas mass flow meter. The cleaning gas is a mixed gas of SF₆ and oxygen or ozone which is introduced while an RF power is applied. The cleaning gas may be a mixed gas of a fluorocarbon gas such as CF₄ or C₂F₆ and oxygen or ozone.

IN THE CLAIMS:

Please enter the following amended claim:

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9. (Amended) A method of growing an insulation film on a substrate, comprising:
providing a vaporization device for heating an aerosol of liquid organic feedstock to vaporize the liquid organic feedstock through the aerosol to form vaporized organic feedstock, and connecting said vaporizing device directly to a plasma polymerization reaction chamber, whereby the vaporized organic feedstock feeds directly to plasma in the plasma polymerization reaction chamber to grow on a substrate an organic polymer film made of the liquid organic feedstock.
